

THE AMERICAN JOURNAL
OF
OPHTHALMOLOGY.

VOL. XXIV.

JULY, 1907.

No. 7.

ORIGINAL ARTICLES.

RETINAL EXHAUSTION.*

BY ARTHUR E. EWING, M.D.,
ST. LOUIS, MO.

Among histologists it is well recognized that in order to obtain pictures of the finest details of the rods and cones in microscopical preparations of the retina, the eye must be taken from the living subject and immediately placed in a fixing fluid, so rapidly do these tender nerve tips disintegrate when their nourishment is disturbed. This is the actual demonstration with the tissues themselves. That an analogous sensitiveness to food obtains in the retina when performing its function in the living subject seems to have been demonstrated in the following incident, which may prove to be of interest to the Society as a fact, and may also have some practical bearing upon certain forms of obscure asthenopic headache.

For two weeks or more I had been using my spare hours evenings, often late at night, in the preparation of some microscopical drawings. In the last of these there were some very fine nerve fibrils which required accurate focussing and refocussing in order to follow them and delineate them correctly. This task was undertaken upon an evening in which two or more hours had already been expended with other drawings, less difficult, but of importance to the engraver the following day.

*Paper read at the June meeting of the St. Louis Ophthalmological Society.

For about half an hour after beginning with this last drawing the lines were clear and could readily be followed; then there came at short intervals a momentary blurring, although I was not in the least drowsy and had taken no stimulant other than my regular evening meal at seven o'clock. In the following half hour this blurring came more frequently and always with longer duration, until finally it was beyond my power to follow the lines at all, even after intervals of ten or fifteen minutes' rest.

When working in the evening in this manner it is not unusual for me to indulge in a light lunch before retiring, and on this particular occasion this consisted of cocoa and toasted crackers and occupied about half an hour. After lunch, with the hope of yet completing the drawing I returned to it and found to my great surprise that the finest lines were entirely clear and there was no more trouble during the finishing of the work. The question then arose with me, what could have been the cause of my utter inability to proceed with the drawing before having had the meal and the little interval of rest? I could not attribute it wholly to the rest, for I had tried this several times before the lunch. With eyes almost wholly presbyopic, with practically no astigmatism, and with oculars which relaxed any remaining accommodation, anyway something that I early trained myself never to exercise either with the microscope or the ophthalmoscope, I could not find the fault in the accommodation. The lenses and the specimen and the light were all fixed quantities. I have not been able to come to any other conclusion than there must have been actual lack of nervous force in the percipient elements of the retina, and when this force had been supplied by the food these elements were enabled to perform their function properly.

Since this incident, again and again in actual practice, where I had made refractive measurements in which the vision was normal or a little above normal, say at 11:30 A.M., and later with the same patient had taken the vision with the same correction an hour or more beyond the patient's regular lunch hour, I have found that one or two letters had been dropped, as from 20/12 to 20/15 or 20/19, or from 20/15 to 20/19 or 20/24, and sometimes a wider variation.

A further observation that I have made in this connection, which is where the subject has its bearing in the actual daily routine of practice, is, that certain semi-exhausted cases, particularly teachers, book-keepers, stenographers and school chil-

dren who suffer with head-aches and aching through the eyes toward noon, with an increase of the trouble later in the day, and inability to continue eye-work through the day, even though the refraction be wholly corrected and there be no nasal complication, are frequently easily enabled to continue their work by taking a light lunch of crackers and milk or cocoa a few minutes previous to retiring. Not only do the asthenopic symptoms disappear, but almost invariably the general physical condition of the patient's perceptibility improves in the course of a few weeks.

That a concomitant similar deficiency of nerve force in the sight centers may be present in each of these several instances is not to be denied, but the rapidity with which the deterioration takes place in death as shown histologically, coupled with my own vigor physically in the case of the drawing mentioned above seems to indicate that the main cause for this cessation of function lies in the lack of proper stimulus to the rods and cones individually.

NOTES ON THE BACTERIOLOGY OF CONJUNCTIVAL INFLAMMATIONS.

By W. A. LUEDDE, M.D.,
ST. LOUIS, MO.

In the development of modern medical practice the search for the causes producing definite clinical pictures has been a preeminent factor. A diagnosis is not to be considered complete when it only gives a name to a group of symptoms. It must include a determination of the relation between the aetiology and these symptoms, thus leading to a more certain prognosis and a more intelligent treatment.

For this reason, in dealing with the inflammations of the conjunctiva, cornea, etc., we can no longer think to have finished with the diagnosis when, after a careful study, taking into account the location and character of the trouble with its history and symptomatology, we call the case "chronic catarrhal" or another "acute purulent" conjunctivitis. We are obliged, if we would know our cases thoroughly, to make an attempt to find or exclude a bacteriological cause.

It is true that an absolutely scientific determination of the bacteriology of such cases would require so much time, as well

as special laboratory facilities and training as to be entirely out of the question in connection with the routine work of the practical ophthalmologist. It is possible though to gain a great deal of valuable information by simpler methods, and, as half a loaf is better than no bread, we may consider our effort in this direction well worth while.

Axenfeld, in "Die Bakteriologie in der Augenheilkunde," 1907, a most interesting and valuable work, says "the clinical application of bacteriological examinations to conjunctival inflammations is facilitated in many ways. Indeed, the examination of simple "smears" is often better for the diagnosis than the inoculation of culture media because, by the latter method, the pathogenic bacteria prominently present in the "smear" made from the conjunctival secretion may grow with difficulty, while secondary bacteria, by their luxuriant growth put themselves in the foreground."*

In an interesting though incomplete and less profound volume on "Microbiologie Ophtalmologique," Gabrielidés of Constantinople tabulates the microbial diseases of the conjunctival sac and endeavors to assign to each classical clinical symptomatology.

The best and most recent reference books, such as the "Graefe-Saemisch Handbuch der Augenheilkunde" and the "Encyclopédie Française d'Ophtalmologie," have given full recognition to the idea of a new classification of conjunctival troubles according to their aetiology. Continued observations and new findings can only make this classification more exact and authoritative.

It may, therefore, be of interest to present a résumé of a series of practical clinical observations of over six hundred cases of conjunctival and corneal diseases.

The greater number (550) of these examinations were made during March and April, 1906, at the "Fondation Ophtalmologique Adolphe de Rothschild" in Paris. At this splendid modern eye hospital the rule is to send all new cases showing any symptoms of conjunctival trouble to the bacteriological laboratory for examination and report before they are given further treatment. The large number of patients calling for attention during the regular hours of the clinical service re-

*"In Wirklichkeit ist es mit der klinischen Anwendbarkeit der bakteriologischen Untersuchung für die Bindenhautentzündungen sehr günstig bestellt in vieler Beziehung. Ja die einfache Ausstrichuntersuchung ist für die Diagnose in vielen Fällen der Kultur überlegen, weil auf letzterer manche ursächlichen, im Sekretpräparat vorherrschenden, Keime schwer angehen, während Nebenbefunde sich in den Vordergrund drängen können."

quires that these examinations be made with the greatest possible dispatch consistent with reasonable accuracy. In most of these cases an examination of the "smear" of conjunctival secretion was all that could be made. Only in those of doubtful character, or otherwise particularly interesting, were cultures taken and inoculations into animals attempted. In staining these "smears" dilute carbol-fuchsin (Ziehl) solution was used, but the greater reliance was placed on Gram's method.

The patients derived benefit from these examinations not only in the way of more accurate treatment, but all cases demonstrated to be of contagious character are treated thereafter at the "Pavillon septique," to which they are admitted by another entrance, thus avoiding as much as possible, the contact with other patients in the general waiting room.

A second series of eighty cases comprises some of those examined in private practice in this city during the past months.

No. I. DISEASES	Number of Cases	Bac. Weeks	Diplobacillus (Morax-Axenfeld)	Xerosis Bac.	Bac. Friedländer	Bac. Loefler (Diphtheria)	Pneumococcus	Staphylococcus	Gonococcus	Negative
		71	24	49	2	2	4	61	7	30
Acute Conjunctivitis.....	226	31%	10.6%	21.6%	1%	1%	1.7%	27%	3%	13%
Chronic Conjunctivitis.....	265	3	102	48			9	37		75
Phlyctenular Conjunc...	10				5			7		
Marginal Blepharitis.....	37	4	5	4				19		7
Corneal Ulcer.....	8	1	3					4		1
Dacryocystitis.....	6				1		3	3		
Trachoma.....	5					3		2		1
Traumatic.....	6					5		2		
		563	80	134	115	2	2	16	131	7
										114
										1.4% 23.8% 20% 2.8% 23% 1.3% 20%

No. II. DISEASES

	Number of Cases	Bac. Weeks	Diplobacillus (Morax-Axenfeld)	Xerosis Bac.	Pneumococcus	Staphylococcus	Diplococcus Catarhalis	Streptococcus	Negative
Acute Conjunctivitis.....	18	2 11%	4 22%	7 40%	3 17%	10 55%			
Chronic Conjunctivitis ...	43		13 30%	12 28%	1 2%	12 28%	2 4%		10
Marginal Blepharitis.....	3			3	1	1			
Trachoma	5			1		3		1	
Corneal Ulcer.....	5					3		2	
Hordeolum.....	2					2			
Orbital Cellulitis	2					2		1	
Dacryocystitis.....	7				6	4	1		
		2 85	20 2%	20 23%	10 23%	37 43%	2 2%	2 2%	13 15%

Note**—The sum of the percentages will exceed 100 because some cases showed mixed infections.

These two tables were not so much intended for comparison for the purpose of demonstrating the value of simple examination of "smears". The first being the result of regular daily examinations in a large free clinic of Paris, is hardly comparable to the smaller list of occasional examinations in office practice. However, a comparison of the totals and percentages of each table does reveal some striking similarities as well as a noteworthy difference.

The Diplobacillus (Morax-Axenfeld) was present 134 times in the 563 cases, (or 23%). It was present 20 times in the 85 cases, (or 23%).

The Xerosis bacillus was present 115 times in the 563 cases, (or 20%) ; and 20 times in the 85 cases, (or 23%).

The negative results of series No. 1 amounted to 20%, and in series No. 2 to 15%. This uniformity under such diverse circumstances is entirely accidental and does not show a sort of bacteriological "constant."

That the Weeks bacillus was present 80 times in the 563 cases, (or 14%), and only present 2 times in the 85 cases, (or 2%) is an interesting variation. The well known epidemic character of

this type of acute conjunctivitis would be more likely to manifest itself in a series of examinations made at a free clinic whose patronage is drawn largely from the laboring class, crowded into its immediate neighborhood in a great city than in any private practice. It was not unusual for several members of the same family to present themselves at the same time for treatment, all showing the bacillus of Weeks in the "smears".

The other minor differences hardly call for an explanation. It would, of course, be interesting to know what value attaches to the "Staphylococci" found. Sometimes they were probably pathogenic but more often may be considered saprophytic. For determination of their exact character the examination of "smears" which, at best, can only show them as Gram-positive micrococci, is not sufficient.

The entire showing supports Axenfeld's contention, that a large series of observations must be made to get reliable data. He publishes the results of examinations in 900 cases at his clinic in Freiburg covering a period of three years, in which the Diplobacillus was found 519 times, (or 57%), and the Koch-Weeks—or Weeks-bacillus 41 times, (or 4.5%).

The whole truth about the value and interest of these examinations is not to be found in tables like those just given. The bacteriological examination may be the particular factor that decides our success or failure in a case. The following may illustrate: A case was brought into the clinic after the laboratory had been closed. There was present a violent acute conjunctivitis with ulceration of the cornea, the formation of a false membrane on the lower lid, and a copius purulent discharge. On the strength of the clinical aspects of the case an injection of diphtheria antitoxin was given. The following morning the bacteriological examination showed the gonococcus present in the "smears" and later, in cultures that had been made. The diphtheria bacillus was conspicuous by its absence.

It is beyond the scope of this paper to discuss cases in detail or to take up the therapeutic indications. All these cases naturally present themselves in such a series of observations. In a general way the use of solutions of zinc salts, in cases where the diplobacillus was demonstrable has been very satisfactory, more so when used more frequently than once a day. In other cases, acute purulent types, showing the pneumococcus or staphylococcus, nothing seemed superior to silver nitrate solutions carefully used. In the chronic cases, showing various

micrococci, the Pagenstecher ointment of the red oxide of mercury or the ointment of ammoniated mercury (5%), alone or in combination with the use of zinc solutions has shown good results.

I desire to thank Dr. Rousseau, Dr. Sulzer and Dr. Duclos of the Fondation Ophtalmologique for the many courtesies extended.

PRELIMINARY IRIDECTOMY IN CATARACT EXTRACTIONS.

BY S. C. MAXSON, M.D.,
UTICA, N. Y.

For the past year I have been doing cataract extractions with the preliminary iridectomy and my experience has led me to think that this method has more excellencies in it than I ever thought it had. Of course this opens the question of whether an iridectomy is advisable or not. My first fifty operations were done with an iridectomy at the time of the operation. After this I did some seventy simple extractions, and while many of these were all one could wish there were a few in which a prolapse of the iris gave me much trouble, and it was an anxious time the morning after the operation for fear of finding the iris protruding. A condition which demanded an immediate operation. This led me to return to the original operation, and later to the doing of the preliminary iridectomy.

One of the reasons why I prefer this method is that the primary operation gives one a good opportunity to study the patient and to learn how he or she will behave when we come to the major operation. The patient loses the fear of being hurt and comes to the operation well drilled to do his or her part. I know of no other operation in which the operator is more at the mercy of the patient than in the cataract operation. How many times are our best laid plans and most skillful operations defeated by some foolish action of the patient. In the preliminary iridectomy if the patient does some such unwise thing it can do very little harm, and we can be on the guard at the time of the major operation. Then again, we have opportunity to instruct the patient in detail as to his or her conduct during the operation. I have had very nervous patients who acted badly in the primary operation come to the major operation in

good form after careful instructions as to where they failed in the first. I admit that it takes much valuable time on the part of a busy oculist; I do not think the extra time is of much moment so far as that the patient is concerned. But if we can be more certain of good results the question of time or labor ought not to count. My experience as to results has been very gratifying.

ON CONJUNCTIVITIS, IRIDOCYCLITIS AND OTHER INFLAMMATORY EYE AFFECTIONS AS PART SYMPTOMS OF A GONORRHOISMUS.

By DR. K. ULLMANN, VIENNA.

(Translated by Adolf Alt, M.D.)

(Continued from page 192).

OPINIONS ON THE PATHOGENESIS.

An interesting discussion has arisen as to whether these inflammatory eye affections, as conjunctivitis, iritis and others, can be looked upon as true gonococcus metastases or only as chemical irritations produced by the gonotoxin which coming from gonorrhoeic foci in the genital organ might circulate in the blood, in this manner, that regularly with an exacerbation of the genital gonorrhoeic process and through accumulation of soluble toxin in the blood such inflammations would be produced in specially favorable tissues, as for instance, in symmetrically situated joints which are much used, and in the eye.

Even the appearance of the more evanescent and diffuse conjunctivitis in the first stages of an acute gonorrhœa and before it has passed beyond the compressor urethræ or caused other complications, as above mentioned and as I have observed in some cases, agrees very well with this opinion. We see at this period, also, that the inguinal glands become for a time painful and swollen without suppurating, and some patients, as with measles or other exanthemata, complain of slight muscular pains, neuralgias, malaise and slightly febrile symptoms. Of course these slight forms of conjunctivitis are never combined with joint affections. We can, therefore, not even think of a metastasis, but simply of a diffuse chemical irritation of the mucous membranes. It is pretty certain that this cannot apply to the cases of circumscribed conjunctivitis and iridocyclitis, and to the other rarer forms of intra-ocular localizations with a definite cir-

cumscribed anatomical lesion. However, the great number of well observed and proven cases of nervous affections following gonorrhoeic processes, which to date have been reported by Knies, Groenow and K. von Hoffmann, do not permit us to unconditionally refute the influence of an independent distant action on the serous membranes and nerve tissue, exerted by the gono-toxines which coming from a genital gonococcic focus circulate in the blood, upon certain tissues which are prone to be thus poisoned.

It is still doubtful whether the idea of such a toxic action is further supported (Kurka and Greeff) by the positive and interesting experiments of Morax and Elmassian, 1900, who by allowing filtrated gonótoxin to remain in the conjunctival sac for several hours produced an intense conjunctivitis in rabbits and human beings, which however, did not appear when the filtrate had been taken from gonococci previously heated to 120° and thus deprived of their virulence,—or through the frequent inability of finding any gonococci in the articular exudations taking place during a gonorrhismus, or through the symmetrical appearance of these affections, the regular recrudescence with exacerbations and increase of the gonococci elsewhere in the body or blood, and the serous often afebrile character of the exudations.

It is well known that in most cases the fluids taken from such joints contained no bacteria at all or at least no gonococci, especially during the first five or six days.

Since, however, Ahman, 1897, as the first has shown that in the beginning and during the course of so-called gonococcus pyæmia gonococci can by culture be proven to be present in the joints and the blood, and that this can easily be accomplished when larger quantities of blood are made use of than has formerly been done (this has been verified by Colombini 1898, Thayer and Lazear 1899, Doleris 1900, Krause and others), it seems certain that the gonococcus alone, and not only when associated with other bacteria, can be the cause of such a pyæmia. The question remains how long after the beginning of the infection these bacteria and toxins remain in the blood. The possibility of culturing them according to almost all the reports lasts but for a few days. But, does their pathogenic activity cease with the possibility of culturing and staining these bacteria, or how much longer does it last?

Important as this question is, it seems as yet unsolved.

Would not the theory seem perfectly acceptable and in unison with the present opinions concerning the bacterial toxins and the sufficiency of antibodies in the blood—namely that the gonococci as well as the toxins must be to a certain extent held responsible for the symmetrical joint inflammations, eye affections, etc. As the result of some traumatism gonococci enter the blood from the prostata, the endometrium, a periurethral infiltration and from whatever local gonococcal pus focus, multiply in it, cause fever, and thus weaken the resistance of the tissues and settle down at the well known places of predilection and produce inflammation. This may run its course in a few days or weeks, the seropurulent inflammatory products change into plastic fibrinous exudations, poor in cells, in which bacteria can no longer be found, but remain encapsulated in the exudations in a less virulent condition. Then, again, an insult occurs which affects the body in toto, which materially diminishes the alkalinity of the blood and its resisting power, or a new local irritation in the genital organ, due to an invasion of gonococci, takes place, followed by fever and a general toxic action on the tissues, and we see how the old seemingly healed parts become again acutely inflamed, it even happens that, apparently without cause, a seropurulent discharge comes from the urethra or the uterus, which appears simultaneous with the joint or eye affections. Is such a theory not materially strengthened through the modern serotherapy, especially the injections of tuberculin, of which some thousandths of a milligram produce suddenly, in places where bacteria had been encapsulated and dormant for years, a local inflammatory reaction and fever?

Stock has tried by experiments on animals to support the theory that the eye especially is predisposed to bacterial metastases as well as to toxin influences. A similar opinion has of late been considered plausible by others in explaining the origin of conjunctivitis, iritis and other complications and has been made to agree with the clinical symptoms. Kurka thought that the quick course of the inflammatory symptoms might be considered as a proof.

On the other hand it has been not so very rare to see articular rheumatism, iridocyclitis and other general affections of metastatic character develop after therapeutic encheireses on the genital organ, especially the urethra, and for instance after forced massage of the prostata in the more acute stages of a gonorrhœa.

Griffith designates with the name of post-gonorrhœic iritis cer-

tain cases in which many years after the gonorrhoeic infection, repeated relapses of iritis take place and wants these to be brought into direct connection with the gonorrhoea. This can only be true when gonococci have long remained dormant and without causing any symptoms in the iris tissue itself or somewhere in the genital tract and, being freed by some cause or other (trauma, cold, overexertion, etc.), have produced a renewed irritation in the iris tissue.

The name post-gonorrhoeic, in the sense of bacterial influence can be applied under reserve only, since the iritis might be due, also, to mixed infection with gonococci and probably staphylococci from old remaining infiltrations due to a Fournier gonorrhoea.

For the assumption that live germs may remain quiet for years and be encapsulated, as for instance gonococci in the iris tissue itself, speaks Gendron's (1905) observation, also the remarkable facts adduced by Poynton and A. Payne. These authors have proven by means of excised pieces of the iris of man and animals, that in the beginning gonococci can always be found and stained in the iris tissue and propagated by cultures, that this, however, becomes more and more difficult the older the case. It is not improbable that the gonococci become gradually less and less numerous.

Moreover, we see in other chronic infectious diseases, like tuberculosis, syphilis, lepra, as in gonorrhoea that foci which for years have remained quiet, relapse from some cause, foci which are evidently of microscopical character and in which it is not easy to demonstrate the bacteria which must be lodged there. Only, when alterations take place in the constitution and the individual is weakened so that the conditions of nutrition in the tissues are changed, do the old latent foci of infection spring again into appearance, and in a like manner it might be that the usually simultaneous relapses of gonorrhoeic arthritis and iritis could be explained not so much as due to a new invasion of the formerly attacked parts by gonococci from the blood, but by a renewed virulence of latent germs, due to a general deterioration of the system.

Both of these opinions, the one upheld by Finger, the other by Tomasoli and Lesser (Paris Congress, 1900), concerning the causes of the generalization of gonorrhoea, appear probable, the one resting on a local irritability of the tissues, is conditioned especially on a lack of resistance in the blood vessel walls against the virus which first as a toxin causes an inflammation of these

walls and then as a corpuscular element traverses them and enters the circulation (Finger), the other based on the frequent presence of general constitutional anomalies of metabolism (uric acid in the tissues, rheumatic constitution, etc.) considers the different organs themselves as irritable. Both of these causative influences, weakness of the blood vessels and irritability of the tissues may very well happen to be present conjointly. I know of a case in a colleague who dated his multiple articular rheumatism from a massage of the prostates, and during recent years several such cases have been published in which long after the existence of a gonorrhœa an iritis followed immediately upon a probing of the urethra, which could not be explained in any other way (Griffith at the meeting of the Washington Ophthalmological and Otological Society, Oct. 19th, 1900). It seems certain that such rare cases cannot be simply explained as traumatic reflex irritation of the eye from the urethra, as in former times purpura and erythema were explained as due to irritation of the genital mucous membrane, but must be looked upon as true gonococcus invasions of the blood and tissues from old foci, as true metastases.

From all this, we cannot well refrain to-day in the question of gonorrhœic metastases to vouchsafe the chemical action of bacterial noxae a definite place. It will probably be very difficult to decide how much is due to the live or dead body of the bacterium, how much to soluble toxin and how much to endotoxin. Concerning the biology of the gonococcus the opinions on the action of the gonotoxins differ widely.

Certain observations made lately by Miller and Oppenheim with the polarization apparatus on the blood of gonorrhœic individuals even without general inflammatory symptoms, show plainly a distant action in the blood due to absorption.

The designation as "gonorrhœismus" introduced by the French for an intoxication which is sometimes acute, sometimes chronic, is well supported by such bacteriological considerations.

No matter, however, at what rate we value the toxins in the formation of localized tissue changes in the joints and eyes, surely the clinical aspects and the course of such affections at their beginning show that corpuscular, that is bacterial, elements must have been transferred to these regions by embolism in order to cause such circumscribed anatomical lesions. Although Kurka did not find any gonococci in tissue excised from the conjunctiva, we know how difficult are such examinations, even on

sections in series, and how unjust it would be to conclude from such negative results that no bacteria were present.

REMARKS ON THE THERAPEUSIS.

It seems to me, that at present it will be best in practice to look upon every inflammatory metastasis as an independent inflammatory focus of gonococci, but at the same time as a symptom of a still present general infection which may at any moment heal in such a focus or become recrudescent from the genital organ.

This will lead to several therapeutic indications in different cases. Above all the symptomatic therapeusis of each separate localization, according to severity and acuteness of the symptoms in the eye and the simultaneously attacked joints; further, a forced and continued diaphoresis in order to remove and dilute the toxins circulating within the blood and a careful but effective and non-irritating treatment of the gonococcic foci in the genital organ.

Excellent results may especially be obtained by means of careful katalysing (Alexander) and disinfecting lavage, for instance, according to Janet's method. Cauterization, probing, or worse yet, forced stretching or massage of the prostata should be made use of with the utmost care only. For, it is clear, that every, even only a momentary local irritation followed by an increase in the infectious material, every lesion which opens new doors to the entrance of the virus into the circulation, may in specially disposed individuals cause new exacerbations or an increase in the peripheral inflammations. Thus the older methods which are employed in rheumatoid eye and joint affections are still in place. The older oculists (Arlt) gave 2 or 3 decigrams of quinine a day.

From this same standpoint we must, also, under certain conditions, plead for a protracted internal treatment with balsams, like santal and kawa, and with the modern chemical products like certain santal preparations, kavasantal, gonosan, etc., since in the urogenital tract, that is in the mucous membrane of the bladder and urethra, they are by rights believed to hinder the growth of the gonococcus without irritating the kidneys. Since as Finger has shown these substances do not become active in the blood itself, they can have but an indirect effect on the joint and eye metastases, by gradually reducing the number of gonococci coming from the genital organ.

The deep seated foci, however, in and under the urethra or in the prostata or along the urethral mucosa remain unfortunately

almost totally untouched by this otherwise easy method of treatment.

It is especially difficult to decide whether and when we shall employ local treatment in the genital organs. This question was thoroughly discussed by the Breslau Dermatological Society (1901). Since we know that such metastatic complications have been caused by doubtlessly and directly by forced manipulations, it appears questionable whether in such a case such manipulations should, if ever so carefully, be employed or continued and whether it would not be better to relinquish all local mechanical treatment. Opinions on this point have ever been and still are divided. During the discussion above mentioned Neisser and Chotzen pleaded for, Hartung and Epstein and other decidedly against it.

I must, however, state that local manipulations of the most varied kind, probing, lavage, instillations, massage of the prostates are in my opinion in such cases as a rule well borne, if made with the greatest care and under local anaesthesia of the urethra. Usually, as a prophylaxis, I give larger doses of urotropin and, when well borne, balsam of sandal oil or gonosan.

[Concluded.]

DIONINE IN OPHTHALMIC PRACTICE.*

BY KARL GROSSMANN, M.D., F.R.C.S.E.
Consulting Ophthalmic Surgeon, Stanley Hospital, Liverpool.

During the last 20 years there has been such a flood of new remedies on the market that, though at first warmly welcomed, they were soon received with general coldness, and finally complete indifference by the majority of the medical profession. Nor was this very surprising. Many of these new preparations owed their existence to some synthetic experimentalism,—the wish for some desired effect which was thought might be realized by the new compound. The usual blast of trumpets heralded its appearance, a few ambiguous experiments, with still more ambiguous results, were eulogized into the most beneficial properties, and the new drug was launched, tried, and too often found indifferent or useless, and soon forgotten. It was only natural that under the vast tide of these ever-rising new names, many a good and useful preparation has suffered. The apathy towards new

*Folia Therapeutica, April, 1907.

meteoric appearances of that kind on the pharmacological firmament led the majority of medical men to hold aloof from trying many new preparations in their own practice, that though deserving a better fate than the others, were unfortunately swamped in the general tide of "ines" and "oses" of which we had all grown somewhat tired. And, after all, there was some excuse for this indifference toward any new-fangled drug: have we not all discovered for ourselves, the longer we practice, with how few remedies we are able to manage, with how few instruments we are able to carry out all the operations of our particular branch? In the beginning, we must needs have a special instrument for each case, but the more we gain in experience the greater our desire to simplify our tools. We eliminate the superfluous, and restrict ourselves to the necessary only. The same with drugs—unless we should be so unfortunate as to have to teach *Materia Medica*. If this holds good for medical practice in general, it does so still more in its branches. Speaking in particular of ophthalmology, we have had a share of the really good things in this branch, and I need only mention such an invaluable drug as cocaine to make us realize how by a single addition to the pharmacopeia the practice of a whole branch can be revolutionized. We have since had homatropine and adrenaline and other drugs of like importance. For this reason alone the attitude of complete indifference to new "recommendations" is not wise, and it is probably owing to this indifference that we have heard scarcely anything about Dionine in ophthalmic practice in this country. Yet it is a drug which, if once used with discrimination and without prejudice, is not likely to be omitted from the oculist's outfit.

Dionine is a hydrochlorate of the mono-ethyl-ester of morphine or "morphium ethyl chloride." It forms a fine white crystalline powder, bitter to the taste; its solubility in water is about 1:7, and five times greater than alcohol. Though a derivative of morphine, it is characterized by the comparative absence of its toxicity, which makes it a safe remedy for eye practice.

When brought into contact with the conjunctiva, either in solution, ointment, or in substance, a burning sensation is soon followed by lacrimation and fine injection, often combined with reduced sensibility; on the ocular conjunctiva a fine cobweb of lymphatic vessels becomes visible, and is gradually swallowed up by a more or less strongly developed chemosis, which often covers the corneal limbus by a sausage-shaped swelling. The lids swell to such an extent that they cannot be opened, and this state

reaches its maximum in about half an hour, when the œdema gradually lessens, to disappear in 3-6 to even 12 hours.

There are wide individual differences; in about one case in every twelve no lymphatic swelling occurs, though the pain and the injection of the conjunctiva are present. In one case out of every ten or so sneezing (sometimes violent) follows the application of the drug.

The first to describe the chemosis from Dionine was Dr. Wolffberg. He recognized it as a flooding of the lymphatics of the conjunctiva, and also interpreted it as a state of increased nutrition, promising a vista of beneficial therapeutic results in suitable cases.

The action of Dionine on the eye as a powerful lymphagogue observed empirically, and thus interpreted by Wolffberg in 1899, was proved experimentally by Luniewski to be such in 1902. Luniewski found that the eyes of all animals do not react equally on Dionine. Brought into the conjunctival sac of the guinea pig, the rabbit, or the mouse, Dionine produces no visible effect, whereas in the case of the horse and dog it reacts as strongly as on the human conjunctiva. He therefore injected finely-ground Indian ink into the vitreous of both eyes of a dog, and applied Dionine to the conjunctiva of one eye only. Forty minutes afterwards the dog was killed, and both eyes hardened in 40% formaline. It was found for the dionized eye: (1) That the current which carried the ink particles was quicker and stronger. (2) A venous stasis was found. (3) The lymph stomata were widened. (4) The lymph circulation in the anterior and posterior lymphatics was increased and accelerated. The interpretation of the swelling as an increase of lymph flow as given by Wolffberg from the first, was thereby proved correct. These experiments were afterwards repeated by McKee (1904) and Axenfeld (1905), who injected Indian ink into the anterior chamber of the dog, but they simply corroborated the result arrived at by Luniewski.

The action of Dionine as a lymphagogue has thereby been established. Its acts, however, as an analgesic as well. After the first few moments of application the burning sensation ceases, and gives way to a feeling of comparative ease, in spite of the often very highly-developed swelling. This action is not of an anaesthetic nature. Touching of the conjunctiva and cornea can be distinctly and correctly felt, but pain is felt less keenly and is often completely subdued.

A third effect seems to belong to Dionine, *viz.*, that of an antiseptic. Darier compared a dionine-agar-bouillon-jelly and a simple agar-bouillon-jelly, both of which were inoculated with blennorrhoid secretion of the lacrimal sac, and found that the dionized jelly showed marked antiseptic qualities. On the strength of this Darier supports Wolffberg's recommendation of Dionine after cataract extraction, where its antiseptic properties increase and support its effect as a salubrious lymphagogue in accelerating the healing and preventing infection of the wound.

There is one symptom in which all observers concur, and that is that the conjunctiva soon becomes accustomed to the action of Dionine, so that often after the second or even after the first application no subsequent dose produces chemosis. For this reason it is well not to use the drug oftener than once or at most twice a week.

During the few years in which I have employed Dionine I have found only one slight drawback, the sudden swelling which takes place after application; but the patient feels no serious inconvenience, and I have never seen any disagreeable effect remain.

Let us now look at the results obtained by the use of Dionine, according to the experiences of various observers. In photophobia good results have been observed by Fuchs, Spengler, Wolffberg, and Marquez. All conjunctival catarrhs were improved under Graefe's observation, as also all inflammations of the palpebral margin. In phlyctenular keratitis, excellent results have been observed by Nicolaier, Batalow, Re and myself. Re mentions particularly that even severe and obstinate cases healed quickly after using Dionine once only. Keratitis fasciculosa, mesokeratitis vascularis and parenchymatous keratitis were greatly improved in the hands of Luniewski, Batalow, Wolffberg, Nicolaier, Simi and myself.

Koenigstein found improvement in some cases, and not in others. In keratitis pustulosa Darier applied Dionine with good results. Corneal ulcers with and without infiltration were favorably influenced, according to Wolffberg and myself, though Darier found no improvement in some cases. Corneal ulcers with hypopyon healed well, according to Surow and Bloch. Surow specially mentions kerato-mycosis, and Bloch reports very good results in ulcer serpens with hypopyon.

Keratomalacia of the newly-born was greatly improved by Wolffberg. In fresh corneal trauma Darier and Hinshelwood found good results, while Daxenberger was disappointed. The

use of Dionine after cataract extraction is recommended by Wolffberg and Darier. Its use is, however, not encouraged by Bourdeaux and Græfe; Koenigstein and Wicherkiewiez equally dissuade from its use after cataract extraction on account of its danger through possible sneezing attacks. It must be conceded that a sneezing paroxysm immediately after cataract extraction would certainly be fraught with alarming possibilities, but to my mind it would be a simple matter to ascertain beforehand whether the patient reacts on Dionine in this way at all. I have noticed that where sneezing occurs it is always from the very first application. I have never seen it occur in cases where there was none at the first dionization, unless the dose on a subsequent occasion had been very greatly increased in strength, *e. g.*, from a 2% solution to Dionine in substance, when I did see it occur once.

In abrasion of the corneal epithelium (erosions), where cocaine is generally harmful, Dionine is recommended by Darier, Axenfeld, and Vermes. The latter has seen excellent results, especially in painful recurring erosions, where the soothing effect was very striking. I have seen this effect equally well marked in herpes cornea. In all cases of corneal opacities, be they fresh or old, Dionine deserves a trial. Luniewski, Arlt, Bloch, Spoto, and Vajda report a clearing up of corneal opacities, though in some cases there is no further effect noticeable after the first application; and although Spoto saw good results in fresh cases only, Vajda, who illustrates his report by an elaborate table, has found improvement in old opacities as well. In pannus trachomatous improvement is often noticeable, though not very marked; in this respect I can corroborate the observations of Luniewski and Simi. I have also seen some clearing up in two light cases of burning with quicklime.

Episcleritis and scleritis, especially the rheumatic form, seem to be equally amenable to Dionine treatment. Græfe, Darier, and Maddox report favorably, while Luniewski found no improvement. In iritis and iridocyclitis we come to the affections in which Dionine appears to be of the most beneficial effect. No dissentient voice is heard here in the united chorus of praise as voiced by Darier, Græfe, Fuchs, Surow, Terson, Hinshelwood, Maddox, and Simi. I may add that in two cases of iritis serosa I found a single application of Dionine sufficient, where it seemed to render the atropine effective as well. Just in cases of iritis and iridocyclitis the analgesic effect on the deep-seated pain is often very remarkable. Daxenberger reports good results in

clearing up exudations and opacities in the anterior chamber, in the vitreous, and of cortical remnants both after discussion and extraction.

As an analgesic of first importance, Dionine has shown itself in cases of glaucoma haemorrhagicum (Koenigstein, Terson, Bellarmine, Andogski), in inflammatory glaucoma (Spoto, who, however, saw no effect in glaucoma simplex). Grimsdale and Simi report good results in chronic and acute secondary glaucoma.

Finally, good results have been observed in some cases of detached retina by Simi, Batalow, Luniewski, and Androgski, who, like myself, saw partial re-attachment. Detachment of the retina, I may mention, was the only affection where I applied the remedy subconjunctivally. I thought it possible to obtain by this mode of application a still more pronounced absorption of the sub-retinal effusion than by simple instillation on the conjunctiva, but I have not made enough observations on this disease to be able to arrive at a definite conclusion on this point.

From the short account given here it is clear that in Dionine we have a drug which fills a decided gap, and though it will still require a large number of further careful observations in order to define more precisely the exact indications for its use, we have in it a most valuable enrichment for the pharmacopeia ophthalmica.

The mode of application to the conjunctiva is either in aqueous solutions (1, 2, 5, 10 per cent.) or ointments (2, 5, 10, 20 per cent.), or the finely-powdered substance itself (about 1/10 of a grain or more).

A CLINICAL LECTURE ON ALBUMINURIC RETINITIS.

Delivered at St. Bartholomew's Hospital.

BY WALTER H. JESSOP, M.B., F.R.C.S.,

Senior Ophthalmic Surgeon and Lecturer on Ophthalmic Medicine
and Surgery at St. Bartholomew's Hospital.

Gentlemen:—We have had lately in the wards three cases exhibiting the classical signs of the retinitis associated with Bright's disease. I cannot do better than to refer first to the short notes taken of these cases, as they serve to summarize the clinical conditions of the disease. Before doing so let me remind you that the existence of eye symptoms was noted in the first

observations of Dr. Bright, who described loss of vision, partial and complete, in some cases. Heymann gave the earliest description of the retinal changes which he and Coccius observed by the ophthalmoscope; whilst Liebreich in 1859 first illustrated the ophthalmoscopic appearances in his admirable drawings.

The first case described is typical of albuminuric retinitis as found in parenchymatous nephritis. The second case exemplifies the affection in chronic interstitial nephritis, and the third case illustrates the albuminuric retinitis of acute nephritis.

Parenchymatous Nephritis.

A horse-collar maker, aged 26, was admitted under Dr. Tooth. The past history of the case was that in October, 1905, he had severe frontal headache for twenty-four hours, since when he has had polyuria; four days after this attack he had headache and vomiting for twelve hours and had six fits the night after. He returned to work in a week and remained apparently well till November; when he had another attack of vomiting, lasting twelve hours, and since then has had continual headache with vomiting two or three times a day independent of food. He has lost 10 pounds in weight, and has had muscular twitchings for one month.

On admission the patient's face was pale and puffy; he looked anaemic, and his tongue was furred; temperature normal; pulse 76, with moderate tension. His eyes were slightly unsteady in conjugate deviation. The eyelids were rather puffy, the pupils were equal, and reacted normally. Ophthalmoscopic examination showed œdema of retina in the right eye; the optic disc edges were fairly clear, of muddy aspect, but with no swelling; the yellow spot at nasal side showed half a star of bright white small radiating patchy spots. The retinal arteries were convoluted and rather small. The retinal veins were dilated. Scattered about the retina, chiefly within the equator and near the vessels, were several flame-shaped superficial haemorrhages. Numerous white and yellowish-white patches and spots were near the optic disc and along the retinal vessels; no cholesterolin spots present.

The left eye showed the same conditions except that there was no marked star at the yellow spot, but the Mullerian fibres were seen very distinctly as radiating lines; there was one large linear haemorrhage between the optic disc and the yellow spot. There was no detachment of the retina and there were no black retinal pigment spots.

The heart and lungs were normal but the pulse tension was increased. The abdomen was rather pigmented, the reflexes were brisk, and the spleen not enlarged; the knee-jerks were exaggerated; urine 1016, pale in color; there was about 1/10 albumen; there was no sugar. The past history of the patient was that he had scarlet fever at 11 years of age and typhoid soon afterwards. He had drunk a great deal of beer up till some months before admission.

On the eighth day after admission to the hospital the patient vomited several times, and then continued vomiting at times with slight delirium till the sixteenth day, when he showed signs of uræmia, and died from uræmic convulsions on the seventeenth day.

The *post-mortem* appearances showed the large white kidney of chronic parenchymatous nephritis.

Chronic Interstitial Nephritis.

A man, aged 48, who consulted me in 1898, complaining of dimness of vision in the right eye, aching of the eyes, and headache. His vision, right and left eye, was 6/6. Ophthalmoscopically both eyes showed retinal arteries that were rather tortuous and with marked "copper-wire" look; the retinal veins were dilated, and in places were distended where crossed by the arteries. The urine was examined three times, and was of low specific gravity but did not contain albumin. His radial arteries were rather thickened, and there was increased tension of the pulse.

I saw him again in 1900, and found he still complained of headache and aching of the eyes; the vision was dim at times, and he had lately passed more urine than usual, and had nausea every morning. He was pale, anaemic, and sallow-looking; the tongue flabby, furred and moist. The radial arteries were rather thickened and tortuous; pulse regular but of high tension. The heart dullness was enlarged, with the first sound prolonged and second sound accentuated at base.

Ophthalmoscopically the right eye showed the optic disc normal, with the retina near the disc oedematous; there were small flame-shaped retinal haemorrhages near the vessels; there were numerous white plaques and spots, most of them soft-looking, and a few were glistening white. Around the macula there was a concentric circle of white glistening spots. In the left eye the appearance was exactly the same, but there were no marked

signs of degeneration; vision, right and left, 6/9; urine 1012, acid, with a trace of albumen and a few hyaline and granular casts; the heart dullness was enlarged, with the first sound prolonged and booming and accentuated at the base. I gave a gloomy prognosis as to life, and heard that in fourteen months he died of uræmic convulsions, and that a *post-mortem* examination showed contracted kidneys.

Acute Nephritis in Pregnancy.

The patient, aged 23, complained at her first visit that her vision for the last few days had been deteriorating and that at times she had been quite blind in the right eye. She was six month pregnant. The urine showed a specific gravity of 1020 and was loaded with albumen. Her vision was—right eye, 1/60; left eye, 6/24. Ophthalmoscopic examination showed that in her right eye the retina was œdematosus, the optic disc was congested, the edges were indistinct, but there was no swelling; there were numerous large soft-looking retinal plaques and spots, some confluent, mostly situated near the optic disc and well within the equator, there was no tendency to the "albumen star" at the macula; numerous retinal haemorrhages were observed, some flamed-shaped.

DIAGNOSIS.

The points I want to consider to-day are the ophthalmoscopic signs in albuminuric retinitis and the prognosis in these cases considered as to life and vision. From the point of view of the ophthalmoscopic appearances the changes in all these cases may be considered first as they affect the retinal tissues as œdema, white or yellowish-white spots and patches, haemorrhages, pigment spots, and rarely as a late change detachment of the retina; secondly, as they affect the optic disc as congestion or swelling; and, thirdly, as they affect the arteries and veins.

I advise you in your notes of similar cases to take the ophthalmoscopic signs in some such order as I have indicated.

Considering first the retinal changes, it will be found that œdema of the retina is generally present, the retina especially near the optic disc being opaque-looking. The white plaques or spots vary in size, shape, and appearance. They may be mainly divided into two classes, the one characterized by soft edges, yellowish-white color, and due to exudation, and the second much brighter white, with often metallic lustre due to cholesterin and degenerative changes. These spots are as a rule

situated within the equator, and mainly in the neighborhood of the yellow spot and the optic disc. Around the macula lutea the white spots tend to arrange themselves as a star or ring enclosing an area of apparently normal retina. These spots and plaques, especially the soft-looking ones, tend to disappear, and alter sometimes from day to day; the degeneration ones also alter, but much less rapidly. The haemorrhages are, as a rule, superficial and flame-shaped, and situated near the blood vessels. They may, however, be horizontal, linear, sausage-shaped, or more or less rounded when they are in the deeper layers of the retina. At the periphery, in cases of granular kidney, small black pigment retinal spots may be found, but these occur late in the course of the disease, and result from inflammation of the retina. Detachment of the retina may be found occasionally, and is a very serious sign.

Considering next the optic disc, it will be found that the color may be altered, being either too pale or too red; the edges are often not quite distinct owing to the oedema of the retina, and in some cases there may be distinct optic neuritis with swelling of the disc.

As to the arteries and veins, it will be seen that the arteries generally show signs of degeneration, and are tortuous and irregular in contour; the light streak is broadened and bright in color, like copper or gold wire. In some cases the arteries have apparent kinks in them, and sometimes minute aneurysmal dilatations. The veins are tortuous and dilated, and when crossed by an artery are often flattened and distended peripherally.

Such, then, are the signs of retinitis in Bright's disease, and the combination of these signs make up the more or less characteristic picture of albuminuric retinitis. Retinitis exhibiting exactly the same signs is met with without any albumen being found in the urine, and sometimes without any apparent cause. The retinitis found in diabetes resembles very much the albuminuric form, and is often very difficult to diagnose. In most diabetic cases, however, there are many more haemorrhages, and the plaques have a more yellowish color with a greater tendency to coalesce, presenting a soft cotton-wool look, the edges being crenate and frayed-out-looking. If I were asked to say which of the ophthalmoscopic signs was the most diagnostic of albuminuric retinitis, I should certainly say the ring or star of spots round the macula, though in some cases this may be absent.

Retinitis is more often observed in chronic interstitial nephritis

than in parenchymatous nephritis, and much less frequently in acute nephritis.

The differentiation of granular kidney from the large white parenchymatous form is sometimes possible by the ophthalmoscope, but the signs vary very much in intensity and appearance. Dr. West has tried to draw a sharp distinction between these two forms as far as the retinitis is concerned, but I am bound to say that though the first case described in this lecture exhibits a more exudative than degenerative condition, the two forms easily pass into one another. The eye symptoms in the chronic contracted kidney occur late in the disease, and after increased arterial tension has existed for some time, and this in chronic interstitial nephritis may often be diagnosed before even albumen can be found. I have noticed the presence of "copper-wire" arteries years before the retinal changes could be seen, and those changes afterwards not characterized by haemorrhages but by small retinal plaques and spots, especially in the neighborhood of the yellow spot. The retina may also show at the periphery small spots of black pigment. Now these appearances are quite distinct from those seen in parenchymatous nephritis, where the characteristic signs are the large patches of exudation, the presence of haemorrhages either superficial or in the substance of the retina, and the absence of definite arterial changes known as "copper-wire."

PROGNOSIS.

The prognosis in albuminuric retinitis must be considered as to vision and as to life.

The disturbance of vision varies greatly and bears no marked relation to the intensity of the retinitis or to the kidney mischief. Patients very rarely become blind except suddenly from uræmic poisoning. The sight, if affected, is gradually impaired, and often to the end of life patients retain good acuity of vision. The reason for this is that though the retinal lesions may be very gross the actual yellow spot area is little affected. In acute retinitis, especially that of pregnancy, the loss of vision, which is often very marked, may be completely recovered from. In the other forms any improvement of vision is, as a rule, only slight and temporary.

The prognosis as to duration of life is very serious, except in cases of acute nephritis in pregnancy. I have notes of patients with marked gravidic retinitis who are alive and well fifteen years or so after the attack.

In the other forms of Bright's disease the duration of life after the ocular signs are present is limited to months, very rarely years. Statistics have been compiled by numerous authors, but unfortunately no differentiation as a rule has been made between the varieties of nephritis. In 45 cases Miley found that all died within eighteen months, and no less than 43 within twelve months. Baroness Possauer found in 39 private cases that 23 died within two years, and in 33 hospital cases all of the men and 68 per cent of the women died within two years. Belt in 100 private cases found 73 per cent. died within one year and 94 per cent within two years. He also collected 419 cases from different authors, including hospital and private patients, and found that 72 per cent. died within one year and 90 per cent. within two years.

There seems little doubt that private patients suffering from albuminuric retinitis live a longer time than hospital patients, and this might be expected, as they need not, as a rule, be so much exposed to climatic and hygienic changes. From my own experience I should say most of these patients die within one year of the diagnosis of albuminuric retinitis, but as vision is often for some time so little affected, patients do not probably seek advice at first, and therefore this rule cannot be made hard and fast.—(*Brit. Med. Jour.*)

MEDICAL SOCIETIES.

ST. LOUIS MEDICAL SOCIETY.

THE OPHTHALMIC SECTION.

April 10, 1907.

The Chairman, DR. BARCK, in the Chair.

A Case of Perforating Injury of the Sclera.—Dr. H. Muetze.

The patient, a carpenter, 37 years of age, was struck in the left eye by a No. 9 nail. There was a vertical scleral wound close to the limbus on the outer side with prolapse of the iris and a small quantity of vitreous. The anterior chamber was filled with blood and there was haemorrhage into the vitreous. The protruding iris and vitreous were abscised, and the wound sutured. Vision has risen from hand movements to 20/25.

A Case of Dyscoria Bilateralis.—Dr. C. Loeb.

In both eyes the pupils are pear shaped, with the stem of the pear turned downward; in the right, it is nearly straight down; in the left, it makes an angle of nearly 45 degrees with the vertical meridian. There is no coloboma of the choroid.

A Case of Persistent Pupillary Membrane (Polycoria?).—Dr. C. Loeb.

Parsons, in his work on pathology of the eye, objects to this term and asserts that "polycoria" should be used only in case of loss of substance occurring in the iris itself.

Persistence of the pupillary membrane is a developmental anomaly and is due to lack of absorption of the foetal membrane which covers the pupillary area. It was first described by Adolph Weber in 1861. Possible arrangements are: 1. Several fibres arising at different points of the lesser circle stretch across the pupil and form a delicate network. 2. Fibres run tangentially between two points on lesser circle. 3. All the toothed projections of the small circle are prolonged inward and project beyond the pupillary margin. 4. The fibres float free at their inner extremities. 5. Loops are formed by pairs of fibres in front of the pupil. 6. A network of fibres unites in pupillary

area into a membranous plaque. 7. Fibres are adherent at their inner extremities to lens with or without the formation of a plaque, or presence of exterior capsular cataract. 8. Fibres adherent to back of cornea. Not polycoria.

This case does not fall in any of the above categories as there are three distinct pupils, which dilate and contract similarly to the normal pupil.

A Case of Central Retinochoroiditis Associated with a Peculiar Exudate (?) into the Vitreous.—Dr. J. F. Shoemaker.

The latter is best seen with plus five or six behind the mirror and has the appearance of an almost perfect circle. It is situated two discs to the nasal side, and extends 4 or 5 discs to the temporal side, so that this circular exudate surrounds the macular region. It is about the width of a retinal artery and the same width continuously practically the entire circumference. Dr. Shoemaker was in doubt as to whether it was an exudate or a development anomaly.

In the discussion, Dr. Wiener stated that in view of the regularity of the caliber of the structure and on account of the projection below, it might be a peculiar remnant of the hyaloid artery. He called attention to several little threads, especially to the nasal side, which resembled branches that had been absorbed. Dr. Barck regarded the case as unique, and agreed with the former speaker that it was congenital anomaly, probably an accumulation of condensed fibres in the vitreous. He was in doubt as to whether the condition in the macular region was to be regarded as a central regular choroiditis, or a congenital coloboma.

A Method of Instilling Collyria.

Dr. Wiener demonstrated his method of using an applicator wrapped with a small piece of cotton, for the purpose of instilling drops in the patient's eye. He considered it as easily managed as a dropper, and certainly cleaner.

Massage in Trachoma.—Dr. M. Wiener.

In the opinion of the author, massage should always be from the fold of the lid towards the edge, and never back and forth, or from side to side. After a few moments rubbing, a sticky mucous secretion appears, and the follicles can be seen to empty rapidly.

Paper: *Papilloma of the Caruncle, with Report of a Case.*—Dr. C. Loeb.

The literature dealing with the caruncle is very scant. The anatomy and physiology are dismissed in a few words even in the large text books on ophthalmology. Its diseases are usually discussed under the head of the diseases of the conjunctiva. It may, however, be the sole seat of a disease, which in this case is a tumor, to which the name encanthis is given.

The most usual form of tumor of the caruncle is probably melanotic sarcoma. Papilloma is one of the rarest, only 12 cases having been found in the literature, where the diagnosis was confirmed microscopically. These are as follows: 1 each reported by Veasey, Posey and Shumway, Secondi, Roselli, Kubli, Franke, Terrien, Hirschberg and Birnbacher, Weeks and Parisotti; 2 reported by Testillin. To this should probably be added a case of Desmarres, where the tumor was not removed. The author's case was that of a very small tumor of the left caruncle, which was diagnosed as a papilloma and removed by the scissors. The base was cauterized with the electrocautery needle. All reaction subsided in three days. No signs of return when last seen, nearly two months after operation.

A pocket edition, in three volumes, of Dr. John Brown's *Horae Subsecivae* will, it is announced, be published shortly by Messrs. Blackwood.

We learn that the next addition to the Oxford Medical Publications, to be ready next week, is *Operations of General Practice*, by Messrs. Edred M. Corner and H. I. Pinches. The volume, which will contain upwards of 175 illustrations, is meant to be a guide to the general practitioner in the performance of the more strictly surgical part of his daily routine. The first of the seven volumes of Professor Osler's *System of Medicine* is also nearly ready for publication. This deals with predisposition and immunity; diseases caused by physical, chemical, and organic agents, by vegetable parasites, by protozoa, by animal parasites; nutrition; and constitutional diseases. It has been arranged that the volumes shall be obtainable separately.

PROGRAMME FOR THE MEETING OF THE SECTION
ON OPHTHALMOLOGY OF THE OHIO STATE
MEDICAL ASSOCIATION. ANNUAL MEETING
CEDAR POINT, AUGUST, 1907.

1. "Corneal Infections."—T.F. Bliss, 123 High Street, Springfield, Ohio.
2. "The Treatment of Purulent Ophthalmia." H. B. Harris, 110 Ludlow Street North, Dayton, Ohio.
3. "A Review of the Oculist's Records for Ten Years at the Ohio Institution for the Blind." J. E. Brown, 239 East Town Street, Columbus, Ohio.
4. "A Method of Extracting the Capsule Left After the Absorption of Traumatic and other Cataracts." D. W. Greene, 19 Perry Street North, Dayton, Ohio.
5. "Obstructions of the Lacrimal Canal, their Pathology and Treatment." W. L. Carroll, Youngstown, Ohio.
6. "Tri-chloracetic Acid in the Treatment of Diseases of the Nose, Throat, Eye and Ear." E. H. Porter, Tiffin, Ohio.
7. "Anisometropia." William E. Bruner, New England Bldg., Cleveland, Ohio.
8. "Refraction, What to Prescribe after Static Findings." J. E. Cogan, 707 Rose Bldg, Cleveland, Ohio.
9. "Reports of Cases and New Instruments Shown."

SOCIAL SESSION, (EVENING).

"The Interdependence of Diseases of the Eye, Ear, Nose and Throat." John E. Weeks, New York City.

ANNOUNCEMENT.—To Dr. Sydney Stephenson's essay on "Ophthalmia Neonatorum" has been awarded the Middlemore Prize of the British Medical Association, consisting of a cheque for £50 sterling, together with an illuminated certificate. We understand that Dr. Stephenson's book is in the press, and will shortly be ready for publication.

BOOK REVIEWS.

A MANUAL OF THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE EYE. By Edward Jackson, A.M., M.D. Second Edition, thoroughly revised. With 182 illustrations and two colored plates. Philadelphia and London. W. B. Saunders Co. 1907.

This considerably enlarged edition of Jackson's most practical and complete text-book is sure to become even more popular than the first one, which was so quickly exhausted. Many of the chapters have been added to and more recent opinions been critically referred to, in such a manner as to render the book as modern as possible. The book deserves nothing but praise.

THE OPHTHALMIC YEAR BOOK. Vol. IV. By E. Jackson and George E. De Schweinitz, assisted by Theodore B. Schneidemann. Illustrated. The Herrick Book & Stationery Co., Denver, Colorado. 1907.

Like its predecessors, this Year Book gives a short résumé of articles having appeared in different journals to the number of 1,500, well arranged under special heads. It is thus easy to refer to an article looked for. The book should be in every ophthalmologist's library.

DISEASES OF THE RECTUM. THEIR CONSEQUENCES AND NON-SURGICAL TREATMENT. By W. C. Brinkerhoff, M.D. Orban Publishing Co., Chicago, 1907. Price \$2.00.

This book gives in clear and simple language a description of the author's own method of treating rectal diseases, especially haemorrhoids by injection. While this seems to be in appropriate cases his preferred method of treatment, he does not wish to have it understood that he does not recognize the occasional necessity for rectal surgery. A valuable chapter gives rules on artificial feeding. Like all similar books giving a man's own experience, it is very interesting and should prove of value to careful readers.

WUTHERING HEIGHTS. By Emily Bronse. The Large Print Library. Doubleday, Page & Co. New York. Price 90c.

Many a reader with weak eyes will be grateful to the firm of Doubleday, Page & Co. for a series of readable stories printed in large type. The present volume is a good sample. Why, however, they should have started this enterprise with so gruesome a story as "Wuthering Heights" we fail to understand. Weak eyes are quite often those of convalescents, who will gladly read large type books, but they should, in our opinion, have cheerful literature.

ALT.

PAMPHLETS.

- The Pseudo-scorbutic Type of Acute Lymphatic Leukæmia.
By J. S. Myer.
- A Portable Gastric Lavage. By J. S. Myer.
- Clinical Notes on a Case of Hypertrophic Cirrhosis of the Liver in a Female. By J. S. Myer.
- Two Cases of Keratitis Disciformis. By O. Landmann.
- A Case of Monocular Ophthalmoplegia Interna and Externa, with Paralysis of the Abducens and Trochlearis. B. O. Landmann.
- Practical Legislation for the Prevention of Blindness from Ophthalmia Neonatorum. B. F. Lewis.
- Louis-Emile Javal. By E. Sulzer.
- Concerning the Signs in the Retina of Persistent High Arterial Tension and Their Diagnostic and Prognostic Import. By G. E. de Schweinitz.
- Melanotic Flat Sarcoma of the Choroid, with Unusual Clinical Symptoms. By G. E. de Schweinitz and C. M. Hosmer.
- Trypsin in Cancer. Preliminary Statement. By M. S. Bainbridge.
- Abdominal Injuries. By H. C. Dalton.
- The Duty of Restoring Hearing by Operation in Chronic Aural Suppuration. By Ch. J. Heath, F.R.C.S.
- The Treatment of Chronic Suppuration of the Middle Ear Without Removal of the Drum Membrane and Ossicles. By Ch. J. Heath, F.R.C.S.
- The Climate of Southern Maine in the Treatment of the Later Stages of Hypertonia Vasorum. By L. F. Bishop, M.D.
- The Seventeenth Annual Report of the Eye, Ear, Nose and Throat Hospital, New Orleans, La. (1906.)